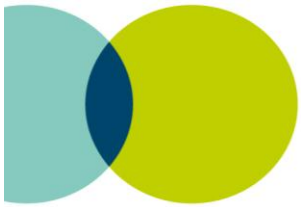

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Title: Should my company use Bitcoin?

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1. Executive Summary

This work project analyses the possibility for a company to trade their goods and services for bitcoins, by joining the Bitcoin network. It analyses the technological and business requirements to join the Bitcoin Network by looking at Bitcoin's potential to act as a mean of exchange for trade, unit of account and store of value. The analysis points to the motives, benefits and risks for investors to use the Bitcoin as a traditional currency and recommends on strategies for addressing those risks and maximizing benefits. Other than companies this report, to a lesser extent, will also analyse the Bitcoin from an investor's point of view, this is, should an investor buy bitcoins for trade and make savings on a regular and everyday basis?

A major finding in this work project is that companies could start using the Bitcoin system as a legit form of payment since the benefits of using this technology outweigh the costs and risks, given the right approach. This form of payment will contribute for the upgrade of a company's business' image, attract a new pool of consumers and businesses that already trade in bitcoins and pressure existing financial institutions and electronic payment vendors to upgrade their service levels.

2. Why use Bitcoin?

The question this work project is seeking to answer is "Should companies use Bitcoin as a means of payment for trade? Does the Bitcoin offer advantages over other financial products that address the same issues the Bitcoin is aiming to solve? What are the benefits of the Bitcoin to act as a substitute for those financial (currency and non-currency) products?

Currency management is a recurring topic for business especially ones involved in international trade requiring the use of multiple operations in different currency zones. The need for multiple currencies, in trade, is a trade inhibitor and therefore may be considered an issue for the prospects of revenue growth. Given this issue should a company use the Bitcoin for daily operations such as sell and acquisition of products, financial settlement with other companies and financial institutions? How is Bitcoin better or different from other financial innovations such as Paypal or Google Wallet, that are addressing the same needs?

2. What is Bitcoin? How does it work?

A Summary of Bitcoin

Main function of bitcoins

The main attribute of bitcoins is to act as a means of trade. This means that once a person or company possesses bitcoins, they can trade goods and services for them. The goods or services exchanged for bitcoins can be of any kind, just like the goods and services that are traded for regulated currency like Euros, US Dollars, etc.

Bitcoin Network

The Bitcoin Network (Bitcoin) is the group of people that are linked together by installing the Bitcoin software or using a third party software enabler via Internet. By belonging to this group, people and companies are enabled to send or receive payments (in the form of bitcoins) to other members of the network. The Bitcoin network started in 2008 with the publication of a work research project about digital currencies by Satoshi Nakamoto. Wallace (2011) describes the early history of the Bitcoin as Satoshi Nakamoto received the first 50 Bitcoin and the first know official transaction was a pizza delivery for 10.000 BTC. From them on, a group of people established a foundation, the Bitcoin Foundation that created the first software that promoted the bitcoin protocol Bustillos(2013).

Self-ruling currency

The Bitcoin is a currency with no regulating centralized body. The meaning of not having a regulating centralized body is that the way the Bitcoin is managed, transferred and validated is done by the whole network of the Bitcoin users and their software. The rules of use of the Bitcoin are set (embed in the algorithms of the Bitcoin software) and no entity or government agency can change the rules in which payments are made. For a single entity to change the rules of the network it would take the effort to change all the software installed in the Bitcoin network at the same time which in every imaginable scenario is something impossible to achieve.

Acting as a network

If anyone has the intention of performing an operation in bitcoins that doesn't follow the rules of the network, that operation will be instantly void since it requires the validation of all the network to be considered done. According to the design by Nakamoto (2008) the solution for the double spending

problem (guarantee that one coin cannot be used more than one time in different operations) in digital transactions requires that all operations in the network to be validated (origin, destination and availability of funds, ie possession of the digital good) in a cryptographic language by each and every member of the network and publish it in a public ledger that the entire network can see.

Safety - Mining – Money Supply

One of the most important issues of the Bitcoin system is its safety which is directly linked to the mining system that manages the introduction of new bitcoins in the network, ie, the money supply.

Public Nature - The safety in the operations of the Bitcoin comes from the public nature of the transactions. All operations are recorded and validated in a public ledger that is available for all users. To imagine a system like this in real life, it is as if all operations evolving hard currency (notes or coins) would have to be recorded in a ledger and only validated once everyone that uses the same currency records and acknowledge that operations. Despite being public, Nakamoto (2008) designed the system for keeping the privacy of the owner of bitcoins because the ledger only contains the account numbers and volumes that is no information about the owner of the account is revealed. A copy of the ledger is kept in all the pcs of the network (that have bitcoin software installed) which makes it impossible for someone to change the ledger without being noticed.

Mining = Validation - The software that is responsible for the validation of the operation and spread of this information all over the network is the Mining process. Miners are people that devote machine power (hardware, software and internet connection) to verify the operations of the Bitcoin network and only when the operation is validated by all the miners, it is confirmed and accepted. This process is called the blockchain validation.

Miners do this because, of all the miners of the network, the miner that performs this action with greater speed is awarded with the next new 25 bitcoins, according to the bitcoin creation process. These are new bitcoins in the system, they didn't belong to anyone (Figure 1). To real currency it's similar to the act of printing new money by a central bank.

The safety net provided by the miners is very strong since the pool of Miners has a great incentive to constantly upgrade their computing power in order to win the race for the new bitcoins. Case may be that some of the miners give up their effort, because they can't get any, there will always be at least one participant that will remain that will get the new bitcoins. Miners also get paid in the form of fees

of the operations they validate. This incentive is promoted by those who trade the bitcoins, namely the funds sender. The incentive of fees will become more important as the trading volumes go up.

Limit of currency – The mechanism of mining limits the number of bitcoins in the system. The algorithm that creates new bitcoins and introduces them in Bitcoin limits the amount of bitcoins to 21 million. The pace of creation of Bitcoin is decreasing over time (Figure 2). It is decreasing to half every 4 years and it is predicted from 2040 there will no more new bitcoins in the system. Even if miners increase their computing power such that they are able to validate the operations of the system much quicker, what the algorithm of the bitcoin network does is to increase the level of accuracy of the validation in order to return the validation time for around 10 minutes. This way the pace of introduction of new bitcoins in the system is steadily decreasing over time.

Opposed to traditional currency that it can't be divided into smaller parts (a trade of 0,001 US dollars is not possible), the bitcoin can be transferred with any subdivision there is (max 8 decimals). A person can transfer 0,00000001 BTC to another user and that operation will still be considered valid.

Public ledger - There are a number of sites that extract the information from this ledger (since its public) and publish many statistics and data regarding bitcoin transactions in a more convenient way for users. One of those sites is blockchain.info. There's information about the whole block which is a group of transactions put together for validation (Figure 3), and after it information regarding each and any transaction that occurred within that block. Here's an example of information that is contained in the ledger displayed by this website (Figure 4). It can be observed the Miner BTV Guild got 25 BTC for validating the block, and next to it there are the different transactions. It's visible the bitcoin identification of the sender and the receiver.

Bitcoin software

The software required to begin trading in bitcoins is widely available in the internet. It's simple software, across multiple platforms (PC, mobile, tablet, etc) that is created and maintained by the people and companies in the Bitcoin network. The technical barriers for the installation of the software required to operate the Bitcoin are slim. Any computer that has an internet connection is a viable tool for accessing the Network and it doesn't require any special hardware, software or type of performance. The installation of the software required for that access only takes 5-10 minutes to install.

There's been a steady increase of VC capital in start-ups that are developing technical tools to better manage operations in Bitcoin. There are a number of technologies or open source platforms that are

supported by shared networks that had success in the past such as Linux. This work project will not analyse this issue other that stating that the quantity and quality of the software supporting the Bitcoin network now and in the future is not a worrying issue for anyone that wants to start using bitcoins.

Bitcoin Wallet

Before having Bitcoins and being able to use them a company must have a Bitcoin wallet. We can make the analogy to real life that in order to have and use hard-currency (coins or notes) you also need to have a wallet to keep your currency.

The Bitcoin wallet has a code that acts as an Account Number in the Bitcoin Network. This is called the Bitcoin address. Other than that code there is no other mean of identification in the network. This means that anyone can use the network and maintain total privacy. The public ledger, discussed in the previous point, only contains the account number, balance and amount transferred. The Bitcoin address is public and is available to anyone in the network. The balance in the Bitcoin address is also public. Anyone can have access to it and anyone can transfer money to it.

Other than acting like an Account Number, the Wallet code is also composed of extra numbers and letters that only the wallet user should know, since they act as a password for use in the Bitcoin Network. This feature in called the Private Key. This is another reason to use the Bitcoin and trade bitcoins. Bitcoins are safe to own and transfer (send / receive). An owner of bitcoins will have exclusive access to his wallet given that only he has knowledge of the wallet's Private. The private key can be stored in a file in your pc making it only possible for software in your pc to use your bitcoins.

The private key is defined in cryptographic algorithms such that is untraceable therefore, if by any way the wallet user loses or forgets this information, the Bitcoin wallet will be lost. The knowledge of the private key is mandatory for any user that wants to claim ownership over a wallet.

The public key and private key are mathematically linked. The cryptographic nature of the Bitcoin key is that is impossible by anyone to assert the private key given only information about the public key, thus giving access to the funds in the wallet strictly to the owner.

Wallet Code Example = Public key + Private Key = 1JArS6jzE3AJ9sZ3aFij1BmTcpFGgN86hA + E9 87 3D 79 C6 D8 7D C0 FB 6A 57 78 63 33 89 F4 45 32 13 30 3D A6 1F 20 BD 67 FC 23 3A A3 32 62

An important feature of possessing bitcoins in your wallet, is that you're allowed to send them or receive them in but no other accessory functions is available, like reversing an operation or asking for

a refund. Once bitcoins are transferred from one wallet to another, the original sender cannot do anything else about the funds that he has just send. It's the same in real currency like when someone hands in to another person a note or coin.

Wallet Types

There are two types of wallets with different features. The first type of wallet in the software based wallet. For a company to have such a wallet it must download the peer-to-peer software in the Bitcoin foundation website (www.bitcoin.org). After the software installation, the computer that the software is installed in will act as the wallet. This means that if anything happens to your wallet (your computer), if it gets stolen, if you lose it or if it breaks down, you lose all the money inside the wallet as in real life. Another form of software based wallet is a mobile wallet. This wallet is attached to an app that is installed in a mobile platform.

There are many incentives for software providers to make and distribute this type of software. First the people that provide the software are bitcoin owners themselves, and the more users the network as, the more valuable will be the bitcoins that they own. It's the kind of network externalities that are very common in social networks. Secondly, by providing the free software for trade and increasing the number of users of the networks, they are creating the grounds to provide other services such as exchanges and specific utility software for users which aren't free.

The other type of wallet is web based. This means that a service provider installs the software in their servers and offer a service that you can use in any computer given you have internet access. Services like this are available at sites such as Coinbase, Bitcoin Bit Explorer, Bitstamp and many more. The advantages of the web based over the software based wallet are you can access your account from different places. The main issue is that you must trust a service provider to keep your wallet for you. The safety of the wallet provider is a matter of reputation. It is advisable that the bitcoin user diversifies its wallet across different wallet providers in order to minimize risk.

Setup Costs

The cost of setting up a wallet and being ready to use the Bitcoin is very low. The setup of a Bitcoin Wallet is free in terms of service. The only costs are hardware and internet connection. Both these costs can be mitigated by using whatever computer of internet connection that companies already own since the access to Bitcoin doesn't require any special conditions. Therefore, this cost may be considered very low since all businesses already have at their disposal those same technological tools. Since electronic payment services like Paypal or Google Wallet require at least the same hardware and

internet connection than the setup of a Bitcoin wallet and also charge an amount for each operation on both the clients and merchants (which the Bitcoin ecosystem doesn't exist) it can be inferred that Bitcoin is the cheapest mean of electronic transfer that is available. Not only the setup of a Bitcoin Wallet is free but also the transfer of funds between bitcoin wallets is completely free (under certain conditions). A fee for transactions which are more complex than average may be charged by bitcoin algorithm reverting those funds to miners.

Exchanging bitcoins

Just like a regular currencies, there are different ways in which you can get bitcoins in your wallet. The most natural and easiest way to get bitcoins is to provide services or goods to anyone that wants to pay you in the form of bitcoins. It is mandatory that the buyer also has a Bitcoin wallet. Once you provide the service or deliver the goods to your counterpart, the payment should be performed according to previous agreement and the only information the payer needs to know is your Bitcoin address in order to process a payment from his wallet to your wallet.

Another form, not so easy way to get bitcoins, is to exchange regular currency, such as US dollars, Euro or any other currency in bitcoins in online exchanges that provide this service. The price in which you do this exchange (bitcoins for currency) is done according to the market prices. This means that exchanges put together people that are willing to buy and sell bitcoins and only act as intermediaries in the operation. They charge a fee for this operation usually between 0,20% and 2% of the amount of the operation.

The process in which there is an exchange of hard currency by bitcoins is the biggest disadvantage of the bitcoin system. There are a number of exchange services available (see list of exchanges in data sources) in the Internet spread over different geographies and ways of doing business but this process may still be considered in an early stage. The reputation of those institutions is still on a build-up stage and was seriously damaged by the bankruptcy of Mt. Gox, which at the time was the biggest exchange of Bitcoin. The downside of these operations is not only the fees involved in the process but also the bureaucracy and time that the process takes (Figure 5). These exchanges are very illiquid (when compared to traditional currency exchanges) and trading currency for bitcoin may take several days. Most of these exchanges require signing of a trading contract, identification, handing in some documents, steps that can delay the exchanging process.

Other that these two options, There are some online forums in which people are willing to trade their bitcoin for hard currency delivered in mail or by hand.

What can you buy / sell with bitcoins?

The number of sites and businesses that currently buy or sell in bitcoins is increasing every day. http://usebitcoins.info/ is one of the biggest directories of businesses that trade in bitcoins, which is the official directory of the bitcoin foundation. There are over 9000 various businesses registered. Products include vouchers for large retailers, flights, commodities, tech gadgets and charities. There are also financial services that can be acquired with bitcoins. Most of these businesses are available in the United States and some in Europe. Most important aspect of trading with bitcoins is that prices are usually fixed in the local currency and the operation is done according to an exchange value, in bitcoin, determined by an exchange that is associated with the merchant.

3. Why is the Bitcoin important for companies?

I analyse the importance of the use of Bitcoin for companies according to the following points:

- Security, Trust and Credibility;
- Long run investment;
- Early adopter's advantage;
- Setup and Transaction costs;
- Digitalization of trade;
- Internationalization of trade;

Security, Trust and Credibility: The credibility of any currency is deeply dependant on the people's belief that they can trade goods with it and that its value will be stable over time. Those two aspects reveal the trust that people have in the security protocol of the Bitcoin and its rules. Over the last 6 months (as of April 2014) there has been a high volatility in the trading and market price of bitcoins (Figure 6 - price range from $200 to $1151; Figure 7 - number of operations from 35.000 per day to 100.000 per day), showing that there's still a long way to go in order to become a viable means of trade despite some stabilization of prices and volume in the last 30 days. Salmon (2013) analysis bitcoin's value fluctuation throughout its history concluding that there have been many periods (in cycles) of high fluctuations, sharp rises followed by steep declines.

Should my company use Bitcoin ?

Some people believe that overtime Bitcoin will attract more people to the network therefore stabilizing its value and reinforcing its credibility. According to Yermack (2013), bitcoin's value shows little or no correlation to the value of traditional currencies which implies that Bitcoin is still going through a speculative period in its existence.

Long Run Investment: Like so many financial innovations, every new technology or financial products may have special advantages for early investors. That may be the case of the Bitcoin, which valuation, since its beginning has multiplied several times (Figure 8) but has decreasing since hitting a peak in December 2013.

If in the future the currency becomes more traded and less suspicious (at the general public's eyes) that might translate into a rising valuation. The more people will want to use the Bitcoin, the more the bitcoins will be valued.

Bitcoin is likely to be deflationary in the future because the money supply will be constant but GDP will probably keep its long-run growth trend. There is a big discussion in the Bitcoin community if this is a good thing or a bad thing but many consider it the biggest flaw of Bitcoin.

Others consider that the expected increase of trading volume also represents a store of value feature of the coin and a reason for more users to adopt and make it successful. The rationale behind it if for those you have early possession of bitcoins will have them at a cheaper cost.

Still, the benefits of the Bitcoin as a long investment are yet to be recognized since the Bitcoin's mechanisms and structure are built for the use as means of trade and not store in value. Investors that wish to buy bitcoin in order to save them as a long investment have to be fully aware that it's a bet in a high volatile commodity.

For investors there are still many reasons to believe that there are some advantages to be taken by entering the Bitcoin ecosystem at this stage. The lack of regulation and interest of big financial players can translate in a high risk high reward bet on investing in Bitcoin. Since it is a decentralized currency one might argue that the stability provided by the maintenance of rules inside the echo system will conform to stability outside with national and international regulation.

Now, the basic question that investors must ask themselves before investing in the Bitcoin is how much time and money are they willing to loose in such a "gamble". Only invest in the Bitcoin if the

answer for these questions is that you're investing in the long run and you're willing to lose all your investment.

Early adopter's advantage: Companies that wish to trade using bitcoins will have advantages from the competition in the form of innovation image and reach to the niche markets of the present bitcoin users. For companies that simply want to trade in Bitcoin the advantages of joining the Bitcoin network are still narrow but becoming increasingly more developed. Most merchants that have joined the Bitcoin are small players scattered over the United States and Europe. Still, given the quality of the software available for trading and the growth in trading volumes of the currency it is becoming common for companies to adopt the Bitcoin as a form of payment.

As for clients for those businesses, according to Smyth (2013) Bitcoin users demographics are mostly young urban male of middle – high income that have a special interest for tech and financial innovations. The appeal that these people felt for Bitcoin was a promotion of their libertarian status and some interest in getting a profit out of it. Therefore companies that seek that segment of the population to promote their products may have a more concise purpose by joining Bitcoin.

Setup and Transactions costs

The attractiveness of Bitcoin for its users is its easiness of setup and use. The transfer of bitcoin from a sender to a receiver is made directly with no intermediaries or agency. Payments move across political or currency borders almost instantly. Once the operation is validated the funds are readily available for another operation. This is made possible because of the peer-to-peer nature of the network (Imagine a transfer of a file over a network in the internet). Each participant is directly connected to all the users through their public key and don't have to pay any fees (or just a small fee depending on the size of the operation) for the service since it's their own software and network connection that makes the operation possible. The "further away" (different geographies, currency and banking systems) the two trading parties are, the most advantage they can take from using the Bitcoin.

Therefore, as a means of payment Bitcoin's potential mostly exists in international trade (this means trade that crosses political or currency borders) and in the tech savvy market place, especially in parts of the world that have a undeveloped banking system but have high access to internet communications.

Its effectiveness however can be replaced, in the short term by large banking groups with presence in different markets. This cash management and settlement tools increase the speed of transaction

between parties and is the main competitive advantage of the Bitcoin over traditional currencies. The lower the costs and the higher the effectiveness of banks, credit card issuers, etc as intermediaries of money transactions, the lower is the incentive for people to adopt the Bitcoin.

There are some advantages of using the Bitcoin in terms of transactions costs. The setup of and account / wallet is an easy and free process. So the ability to accept payments in Bitcoin is very easy and it recommended if there are clients interested already in paying for your goods or services in Bitcoin. The choice between the two types of wallet relies on the web based solution since it's accessible anywhere in the world and much safer, since cloud services core business is to guarantee access to the data stored and therefore their architecture and setup is aligned with safety measures and redundancy of servers.

Still considering businesses that operate mostly in one currency and that are already fully integrated in the existing financial markets in the form of bank accounts and credit cards, the incentives to operate in Bitcoin are very little and therefore, the network externalities that might rise from the presence of this players in the Bitcoin Network may never achieve its full potential.

Digitalization of trade

Another key feature on the Bitcoin is the possibility of innovation in invest and organizations structures. The usage of Bitcoin can be thought as an instigation to open the discussions and promote the cultural changes in organizations and lead the way for corporate transformations in payments systems. Organizations still resist change concerning the adoption of new tools for trade and heavily rely on copying examples of successful experiments.

If the case for investors and businesses is the desire to digitalize their means of trade and commercialization there are many options other than the Bitcoin that are more recommendable than it. There are many service providers such as pay pal, google wallet, credit card services, tech start-ups and many more that provide trading services, at a charge of a small fee. Let's not forget that this fee, associated to the service guarantees the safety in operations and reputation of users, aspects that Bitcoin has yet to prove.

If the case maybe for business to have a commercial image of innovation and want to transmit a message of drive into the future for their clients, collaborator and partners, the usage of the Bitcoin is recommended since it's a "brand" that is getting more attention in the media every day and that people associate with innovation. The risk in this option is the attachment that Bitcoin has had in the past in

illicit operations due to its private nature but that image is expected to disappear in the case that government and regulators target the Bitcoin and accept it as a valid means of payment.

Internationalization of trade

Another key aspect that companies should take a look at the features of the Bitcoin is the possibility of greater success and efficiency in the internationalization of their trade. This effect is highly related to the attempt to lower the transaction costs, detailed in a previous point. The ability to trade increases since it allows for clients an additional form of payment.

Again there are limits to the safety of the operations in Bitcoin concerning internationalization of trade. The operations in Bitcoin still lack the financial derivatives (insurance, guarantees, etc) that support a basic framework of a safe international trade. At a cost, this enables agents to look for international partners and diversify their business in different geographies and currencies. The diversification by the use of Bitcoin doesn't work since its value has no correlation with traditional currencies.

I already use Paypal and other forms of money transfer? Should I also use Bitcoin?

The fees of trading bitcoin are much lower than any existing trading merchant. Fees are paid by the funds sender to miners in order to incentivize them to validate the operation. The parameters and complexity of an operation, that is, sender id, sender destination, volume, number of bitcoins determine the degree of priority that the operation has. The majorities of cases may be that for operations evolving simple trade there are no fees associated, and at the current value, the typical fee that can be charged for an operation is around 0.0001 BTC(as of today around $4 cents) which is still much cheaper than any other similar service. So trading in Bitcoin is cheaper than traditional service provider and more anonymous since the only identification that you provide to the network is the account number.

If I adopt Bitcoin what are the major issues business wise?

The major risks of trading in Bitcoin can be considered the traditional currency risk. This risk is magnified since there are no possibilities of hedging it with the acquisition of other currencies (Yermack). Other hedging strategies are also hard to implement since the financial industry approach to Bitcoin has been very cautious and haven't created financial derivatives to mitigate it.

Another issue that still concerns whoever possesses bitcoin it's the high volatility of its value. This happens because the credibility of the currency isn't established and the high uncertainty about its future.

This uncertainty expresses itself in the fairly unknown and unpredictable adoption curve and for too many the real safety and credibility of the mining system.

All this risks can be mitigated by the operationalization of a bitcoin payment system in companies that automatically convert the funds in bitcoins for traditional currency, as the operations go through. These web based wallet systems, such as Bitpay, are available in the internet and charge small fees for this operations and provide many services of cash management for the funds in bitcoins.

With this strategy companies can at the same time appeal to the consumers that have bitcoins and keep a safe margin of distance to the risks of possessing bitcoins.

Joining the Bitcoin network is very cheap so the potential upgrade in the innovation image quickly surpasses the investment required.

Bitcoin as a discussion

At the present stage, Bitcoin's future is still very uncertain. What Bitcoin already has achieved is its greatest asset of the Bitcoin, the discussion over its philosophy, which will for sure produce more and better virtual currencies in the future, process that is already in motion (Popper). If these new technologies be promoted by government and financial institutions they may replace Bitcoin, other forms of paying mechanisms and even hard currency. There are a number of projects already working on the next digital currency. Barber (2013) considered that Bitcoin core design is robust and can work as a cornerstone for future currencies with few improvements, namely solving the issues theft or loss of bitcoins, scalability of the network, incentives to mining that will decrease when the money supply limit be reached and increased functionalities in terms of commitments to pay, reversals and request of funds.

Strategy for mitigating risk in businesses

Considering that the major risk for businesses to accept bitcoins ends up being the currency risk some mitigating strategies exist and should be considered viable and easy to set up:

- Limitation of the products and their values that are transacted in bitcoins to a small number of products with low dependence but great visibility;

- Publication of the products with local currency with automatic exchange in bitcoins connected to a partner exchange;
- Focus the trading of goods for bitcoins that can be payed to suppliers in bitcoins as well;
- Keep the volume of retained bitcoins to a low value, only enough for daily operations.

4. Conclusions

This work project has provided a vision of Bitcoin from a business point of view. Bitcoin is a simple, easy to understand and safe form of payment that incentivizes early adoption. This work project tried to have a critical opinion over its features but concluded that the core mechanisms of Bitcoin are strong and promising. Still, for businesses that want to start trading in Bitcoin, the exposure should be reduced while the period of understanding the currency and operationalize is in motion. These conclusions lead for the following recommendation:

My final recommendation for businesses (merchants and buyers) is **start using Bitcoin** as currency in the means of trade feature in a **very cautious fashion**. The same applies for those who regard the bitcoin as an investment. Consider investing as long as fully aware that they're investing in an extremely risky product. A strategy for mitigating the risks of owning bitcoin, as described by this work project, must be considered mandatory for a successful and stable adoption.

With this cautious approach, businesses will be part of a yet small but promising community and start their presence in what can become a great source of innovation and market reach. Bitcoin is yet to prove its potential but already has a significant importance and public exposure for entering at this stage.

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10. Data Sources

http://www.blockchain.info

http://usebitcoins.info/

http://www.bitpay.com

Should my company use Bitcoin ?

http://www.zerohedge.com/

http://planetbtc.com/complete-list-of-bitcoin-exchanges/

http://simulacrum.cc/

11. Appendices.

Figure 1 – Diagram of the Public Ledger Source: Rui Vieira.

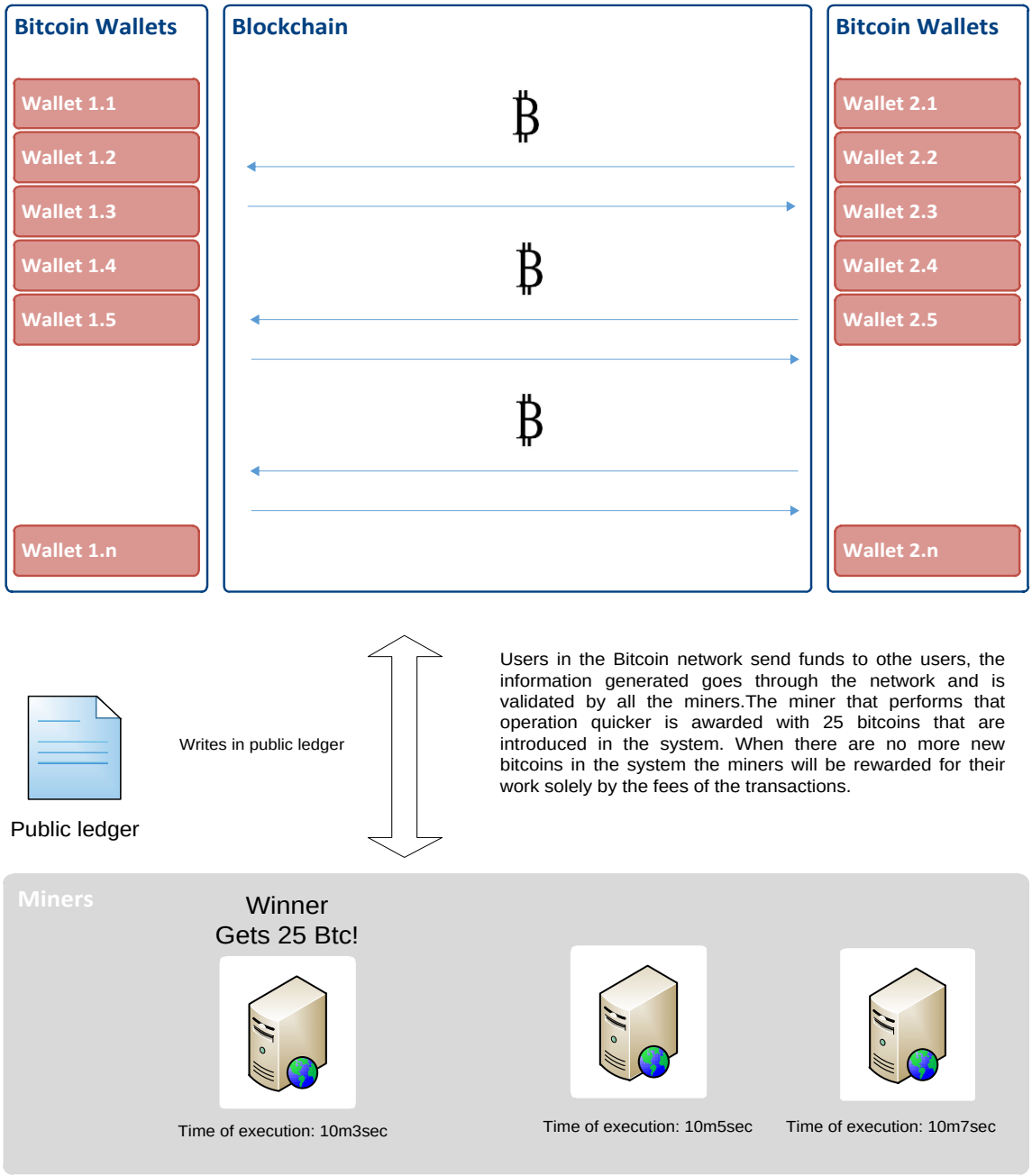

Figure 2 - Diagram of the money Supply - Creation of new bitcoins. Past figures and future projections Source: Blockchain.info.

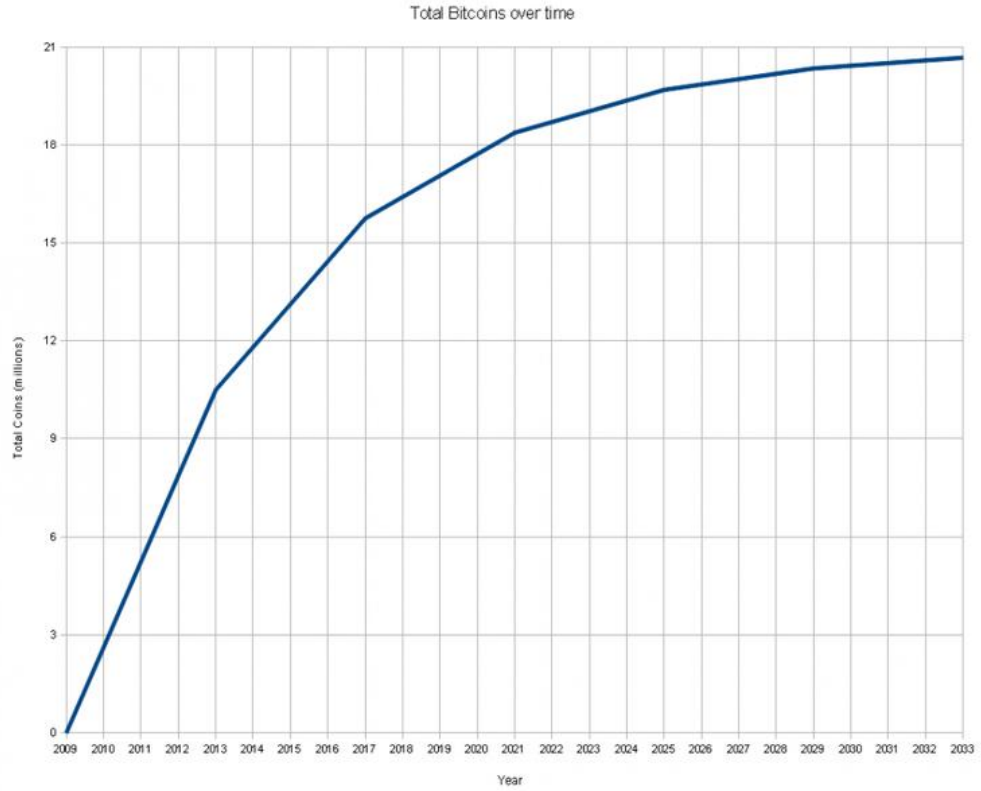

Figure 3 – Public Ledger Block Header Information source: blockchain.info.

Bloco #300422

Resumo	
Número de Transações	510
Total de Saída	3,397.85778532 BTC
Volume Estimado de Transações	1,401.17482945 BTC
Taxas de Transação	0.09288796 BTC
Altura	300422 (Sequência Principal)
Timestamp	2014-05-12 20:42:10
Hora de Recepção	2014-05-12 20:42:10
Transmitido Por	BTC Guild
Dificuldade	8853416309.13
Bits	410792019
Tamanho	368.421875 KB

Hashes	
Hash	00000000000000000038d3cfc29c2a5690514b34ba07bd3ffbbdefbce628c16055
Bloco Anterior	00000000000000005868841d17361b7a619cfa269f7153ff3d20e92c37dea91a
Próximo(s) Bloco(s)	
Raiz Merkle	272bf1a55070d37a92e9257c6cef077361bc13574fc2ee0cab163c23b6572cc0

Propagação de Rede (Clique para mostrar)

Figure 4 – Examples of details of transactions in block, source: blockchain.info

Note: Descriptions in Portuguese.

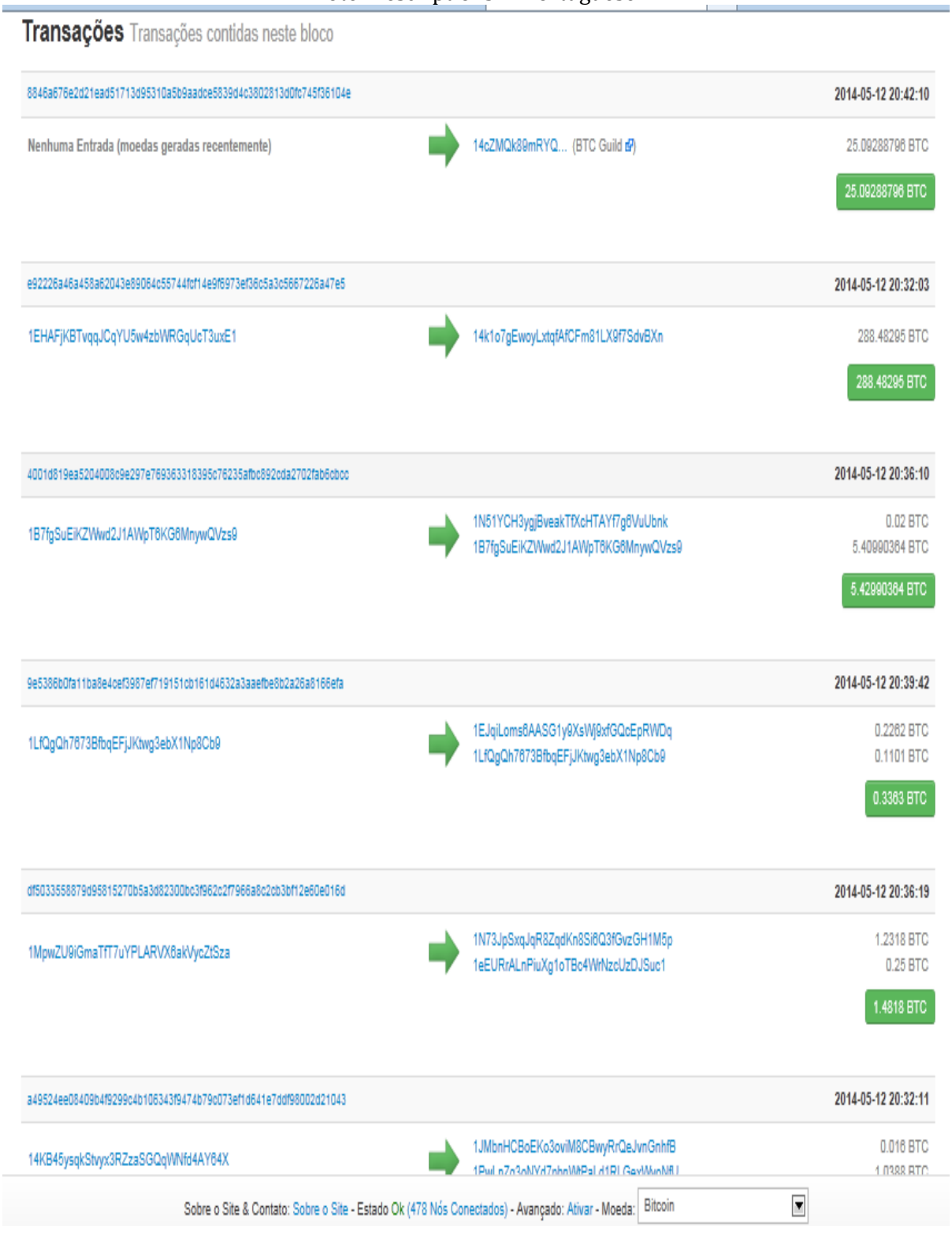

Figure 5 - Simplified diagram of the Bitcoin network with exchanges. Source: Rui Vieira

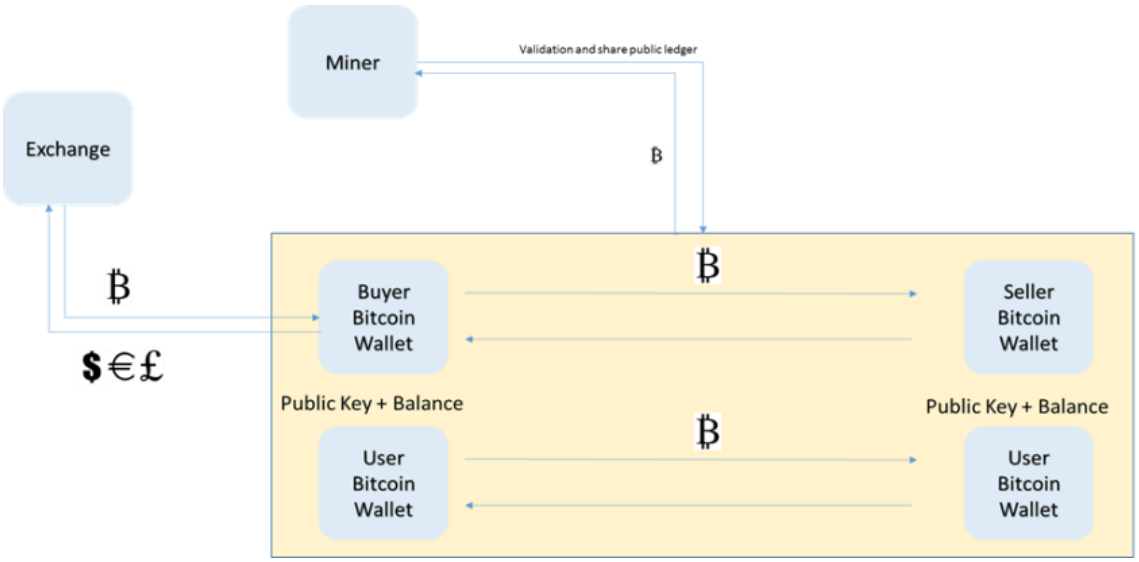

Figure 6 - Market Prices (USD) from November 2013 until April 2014 Source: Blockchain.info

Figure 7 - # transactions per day from November 2013 until April 2014 Source: Blockchain.info

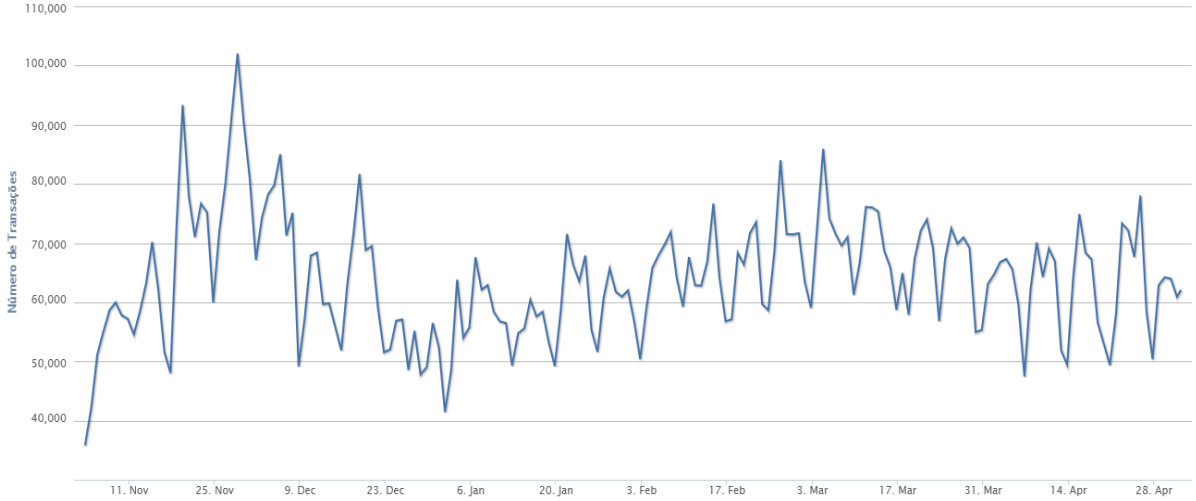

Figure 8 - Valuation of bitcoin in USD since May 2012 Source: Blockchain.info